

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of February 2, 2009 is respectfully requested.

By this Amendment, claim 6 has been amended and claim 10 has been cancelled. Thus, claims 6-9 are pending in this application. No new matter has been added by these amendments.

On pages 2-4 of the Office Action, the Examiner rejected claims 6-9 under 35 U.S.C. § 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Sakemi et al. (US 6,245,394) and Okuyama et al. (JP 2001-243886). On pages 4-5 of the Office Action, the Examiner rejected claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Shintani in view of Sakemi and Okuyama, and further in view of Nishimura et al. (US 2004/0135506). For the reasons discussed below, it is respectfully submitted that the amended claims are clearly patentable over the prior art of record.

Amended independent claim 6 recites a method for manufacturing a plasma display panel (PDP) including a process for forming a metal oxide film onto a substrate of the PDP. The method of claim 6 includes forming the metal oxide film in a deposition room having a degree of vacuum within a range of 1×10^{-1} Pa to 1×10^{-2} Pa. Further, the method of claim 6 includes maintaining the degree of vacuum by *introducing inert gas into the deposition room* during deposition of the metal oxide film, introducing oxygen into the deposition room during deposition of the metal oxide film so as to reduce an oxygen deficiency in the metal oxide film, *introducing at least one gas selected from the group consisting of water, hydrogen, carbon monoxide, and carbon dioxide into the deposition room during deposition of the metal oxide film so as to increase the oxygen deficiency in the metal oxide film, wherein the oxygen or the at least one gas is introduced into the deposition room in a predetermined amount, controlling amounts of the inert gas and the other of the oxygen or the at least one gas to be introduced into the deposition room, and equilibrating the amounts of the gasses introduced into the deposition room with an amount of gas exhausted from the deposition room by a vacuum exhausting system so as to control the oxygen deficiency within a predetermined range.*

Shintani discloses a vapor deposition method in which oxygen is introduced into the processing chamber. Further, Shintani discloses that an oxygen introduction amount and an exhaust speed of the processing chamber are controlled such that the partial pressure of the

oxygen becomes equal to a set value. However, as noted by the Examiner on page 3 of the Office Action, Shintani does not disclose a deposition room having a degree of vacuum *within a range of 1×10^{-1} Pa to 1×10^{-2} Pa*, and does not disclose *introducing inert gas into the deposition room* during deposition of the metal oxide film, as required by independent claim 6.

Further, Shintani does not disclose introducing oxygen into the deposition room during deposition of the metal oxide film *so as to reduce an oxygen deficiency in the metal oxide film, introducing at least one gas selected from the group consisting of water, hydrogen, carbon monoxide, and carbon dioxide into the deposition room during deposition of the metal oxide film so as to increase the oxygen deficiency in the metal oxide film, wherein the oxygen or the at least one gas is introduced into the deposition room in a predetermined amount, and controlling amounts of the inert gas and the other of the oxygen or the at least one gas to be introduced into the deposition room*, as required by independent claim 6.

Sakemi discloses a film growth method in which a degree of vacuum in the vacuum chamber is 10^{-4} Torr (1.3×10^{-2} Pa). Okuyama discloses a method for manufacturing a plasma display panel in which a mixture of oxygen and an inert gas is introduced into a vacuum chamber. Okuyama also discloses that the gas mixture may include hydrogen. Therefore, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to operate the process of Shintani under a degree of vacuum taught by Sakemi, and to incorporate the introduction of an inert gas and/or hydrogen into the process of Shintani in order to arrive at the invention of claim 6.

However, none of the Sakemi and Okuyama references discloses introducing at least one gas selected from the group consisting of water, hydrogen, carbon monoxide, and carbon dioxide into the deposition room during deposition of the metal oxide film so as to increase the oxygen deficiency in the metal oxide film, wherein the oxygen or the at least one gas is introduced into the deposition room in a predetermined amount, controlling amounts of the inert gas and the other of the oxygen or the at least one gas to be introduced into the deposition room, and equilibrating the amounts of the gasses introduced into the deposition room with an amount of gas exhausted from the deposition room by a vacuum exhausting system so as to control the oxygen deficiency within a predetermined range, as required by independent claim 6.

Accordingly, as none of the Shintani, Sakemi and Okuyama references discloses or

suggests introducing at least one gas selected from the group consisting of water, hydrogen, carbon monoxide, and carbon dioxide into the deposition room during deposition of the metal oxide film so as to increase the oxygen deficiency in the metal oxide film, wherein the oxygen or the at least one gas is introduced into the deposition room in a predetermined amount, controlling amounts of the inert gas and the other of the oxygen or the at least one gas to be introduced into the deposition room, and equilibrating the amounts of the gasses introduced into the deposition room with an amount of gas exhausted from the deposition room by a vacuum exhausting system so as to control the oxygen deficiency within a predetermined range, as required by independent claim 6, it is respectfully submitted that the combination of the Shintani, Sakemi and Okuyama references does not disclose or suggest all of the limitations of independent claim 6.

Therefore, for the reasons presented above, it is believed apparent that the present invention as recited in independent claim 6 is not disclosed or suggested by the Shintani reference, the Sakemi reference, and the Okuyama reference taken either individually or in combination. Accordingly, a person having ordinary skill in the art would clearly not have modified the Shintani reference in view of the Sakemi reference and the Okuyama reference in such a manner as to result in or otherwise render obvious the present invention of independent claim 6. Further, it is respectfully submitted that the Nishimura reference does not cure the defects of the combination of the Shintani, Sakemi and Okuyama references, as discussed above.

Therefore, it is respectfully submitted that independent claim 6, as well as claims 7-9 which depend therefrom, are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

Michihiko TAKASE

/Walter C. Pledger/

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By: _____
Walter C. Pledger
Registration No. 55,540
Attorney for Applicant

WCP/lkd
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
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